ANDREWS & KURTH
L.L.P.
ATTORNEYS

1717 MAIN STREET
SUITE 3700
DALLAS, TEXAS 75201

OTHER OFFICES:
WASHINGTON, D.C.
HOUSTON
THE WOODLANDS
LOS ANGELES
NEW YORK
LONDON

JOHN DUGDALE
(214) 659-4525

TELEPHONE: (214) 659-4400
TELECOPIER: (214) 659-4401

E-MAIL ADDRESS:
JOHNDUGDALE@ANDREWS-KURTH.COM

October 8, 1997

Amelia M. Wagner
Assistant Regional Counsel
Office of Regional Counsel
US EPA Region 2
290 Broadway, 17th Fl.
New York, NY 10007-1866

OCT 09 1997

Re: *Passaic River Study Area*

Dear Amelia:

When we last spoke at any length in early September, you indicated that, while the Region would likely issue additional notice letters to potentially responsible parties (PRPs) associated with the Passaic River Study Area (PRSA), ensuring that the Region met its Fiscal Year 1997 (FY '97) commitments might prevent the issuance of such letters until after the September 30 end of FY '97. I am also hopeful that the conclusion of the fiscal year now allows you some additional time to direct to the notification of additional PRPs.

On June 11, 1997 Chemical Land Holdings, Inc. (CLH) submitted to the Region liability evidence summaries concerning, among others, Lucent Technologies (Lucent) as the direct successor to Western Electric Company and AT&T, which had operated the Kearny Works from 1925 to 1984. In that June 11 submission, CLH included an affidavit from Daniel Bartel, a former Western Electric employee, in which he discussed direct discharge mechanisms from the former Western Electric facility to the Passaic River. Specifically, Mr. Bartel discussed waste lines that led from Buildings 170 and 32 to facility storm sewer lines, which then led to the Passaic. Mr. Bartel also discussed drains from a drum storage area located at the southern end of the facility that likewise led to facility storm sewers that discharged to the Passaic.

After further review of available evidence, CLH believes that material submitted to the Environmental Protection Agency (EPA) pursuant to information request letters issued pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act

(CERCLA), 42 U.S.C. § 9604(e), further strengthens CLH's June 11 submission concerning Lucent's CERCLA liabilities.

Specifically, a November 6, 1981 Western Electric Memorandum for Record entitled "RCRA and PCB Inspection at the Kearny Works" and submitted to EPA by Lucent in a March 11, 1997 supplemental 104(e) response discusses the drainage system associated with the drum storage area described in Mr. Bartel's affidavit. That memorandum, enclosed as Exhibit 1, further substantiates the existence of direct discharge mechanisms from the drum storage area to the River and expands upon Mr. Bartel's statement that "two drains located within the drum storage area... discharged to the Passaic River through the facility's storm sewers." In pertinent part, the memorandum states:

> Drainage - The storage area has a large drainage pit in the approximate center. The pit is equipped with a manual valve and the drain leads to the river. The storage area can be drained within four hours after a heavy rain with this system.

In addition, an August 11, 1992 letter to AT&T's Environmental Cleanup Responsibility Act (ECRA) manager from a New Jersey Department of Environmental Protection and Energy (NJDEPE) ECRA Section Chief discusses briefly the results of an ECRA inspection of the Kearny facility's drum storage area. That letter is enclosed as Exhibit 2. In pertinent part, the letter states:

> During the inspection approximately eleven drains, with unknown discharge points, were observed in the former drum storage pad. When a photo ionization detector screened the water inside the discharge pipe of one of the drains, total volatile organic compounds were detected at 22 parts per million. Due to the potential impact to the environment, Western Electric shall determine the discharge point of the former drum storage pad drains (plumbing diagrams, dye test, etc.). Western Electric shall submit documentation on the method used to determine the discharge points and the location of the outfalls to the NJDEPE, within 30 days of receipt of this letter.

Notwithstanding NJDEPE's request that Western Electric/AT&T determine the discharge point of the drum storage pad drains, AT&T's September 3, 1992 response fails to provide any information regarding the requested discharge points. <u>See</u> Exhibit 3. Finally, AT&T's ECRA contractor, ENSR Consulting and Engineering, prepared a report entitled "Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case Nol 84025," dated February 1993. Portions of that report, enclosed as Exhibit 4, discuss analyses of soil samples taken within the drum storage pad area. The hazardous substances found therein included solvents and metals. Although the ECRA investigation did not include sampling of the River sediments[1], AT&T's own internal memorandum documents the fact that the drum storage area's drainage pit discharges directly to the River and can be drained within four hours time following a heavy rain. Hazardous substances detected in soil samples adjacent to the drum storage pad, as well as drum storage pad catch basin sediments, include mercury, copper, zinc, arsenic, cadmium, lead, selenium, and cyanide. Those hazardous substances directly correlate to compounds found in Passaic River Study Area (PRSA) sediments sampled immediately adjacent to the Kearny facility. See enclosed core sample summary table, Exhibit 5, and map indicating core locations, enclosed as Exhibit 6, and enclosed Exhibit 7, which is figure 2-2, Exhibit Q, taken from River Terminal Development Company 104(e) response.

In addition, CLH has already submitted to the Region on June 11 a 1963 plumbing diagram included in the 104(e) information request response tendered by River Terminal Development Company, which provides support to Mr. Bartel's statements in his affidavit regarding discharges from Building 170, in which the facility's plating shop was located. While AT&T's ECRA materials are silent with regard to Building 170's plumbing, and while no sediment sampling was involved in the ECRA investigation of the Kearny facility, the plumbing diagram and Mr. Bartel's affidavit refute aspects of Lucent Technologies' 104(e) response.

Specifically, in response to 104(e) Question No. 6(a), Lucent stated that process waste waters generated at the Kearny facility were discharged to the municipal sewer, and that the waste stream was not treated prior to discharge. In contrast, Mr. Bartel stated in his affidavit that all process wastes generated from plating operations conducted in Buildings 170 and 32 were discharged to the Passaic through storm sewers. Furthermore, the 1963 plumbing diagram CLH included in its June 11 submittal clearly indicated that Building 170 floor drains discharged to the Passaic.

---

[1] It should be noted that AT&T's initial "Written Notice of Decision to Close Operations for the Kearny Works Location of A.T.&T. Technologies, Inc. (Formerly Western Electric Co., Inc.)" presented to NJDEP on February 6, 1984 included the following statement at page 2-3:

> ... sampling from the river is of no value. There are no known or suspected sources of river contamination which will continue after site operations have been discontinued.

Obviously, CLH disputes the merits of that statement. Furthermore, the mere fact that Lucent's predecessor chose not to perform River sediment sampling could not serve a valid basis for Lucent subsequently to object to the use of CLH's sediment data to establish Lucent's CERCLA liability. Finally, the statement also indicates that AT&T plant management acknowledged that sources of River contamination existed *prior to* the cessation of AT&T operations at the Kearny facility.

Finally, analyses of the sediment samples collected adjacent to the AT&T facility confirm the presence in the sediments of hazardous substances associated with this facility. For illustrative purposes, enclosed is a table showing analyses of several metals known to have been used in the plant operations and demonstrated to be present at the facility in the reports of soil and catch basin sediment contamination referenced above. Also enclosed is a map illustrating that the three southernmost transects of the sampling plan for the remedial investigation/feasibility study (RI/FS) for the Passaic River Study Area (PRSA) are offshore of the AT&T facility. On those transects, Cores 203, 206 and 209 were taken directly adjacent to the facility, while Cores 201, 204, and 207 were taken from the opposite side of the River.

In addition, the enclosed table illustrates the likely impact of AT&T operations on River sediments. The samples have been grouped to reflect the results of chemical analyses performed on sediments estimated to represent years during which the plant operated (1925 - 1984) versus samples of sediments taken reflecting years that followed the cessation of AT&T operations at the Kearny facility. The estimated dates of sediment deposition are derived from the radio dating analyses required for the RI/FS. The critical results are for Cores 203, 206, and 209.

The mean hazardous substance concentration levels found in sediments deposited during the years of the AT&T facility's operation far exceed the mean concentrations found in samples taken following the facility's closure. In addition, those samples reflective of the years of operation similarly far exceed the mean concentrations of hazardous substances found in sediment samples collected directly across the River from the facility. This disparity in hazardous substance concentrations found in River sediments clearly indicates that hazardous substances known to have been associated with AT&T's operations, for which a number of discharge pathways to the River have been established, and that are believed to have been deposited during the years the facility operated, are present in high levels in sediments found close to the facility.

In light of the above and prior submissions to EPA, CLH believes that the issuance of a notice letter to Lucent is appropriate at this time. While CLH appreciates the Region's procedure of issuing supplemental information request letters prior to issuing a notice letter to allow a PRP an opportunity to provide an explanation in instances where a *prima facie* liability case is circumstantial, that is not the case at hand. AT&T's own internal documents and an ECRA investigation establish a direct discharge mechanism to the Passaic from the facility's drum storage area and the presence of hazardous substances within that discharge system. In addition, a 1963 plumbing diagram and a credible affidavit describing historical use of floor drains for plating process waste disposal within Building 170 establish hazardous substance discharges to the River as well. With regard to both discharge cases, CLH's sediment sampling and radio dating presented in the enclosed table correlates the presence of hazardous substances in the River sediments with those used at the Kearny facility.

Should you require additional information concerning this matter, please do not hesitate to contact me. Thank you for your attention to this matter.

Very truly yours,

John Dugdale

Enclosures (7)

cc: Mel Skaggs, CLH (w/o enclosures)
Paul Herring, CLH (w/o enclosures)
Richard McNutt, CLH
Paul Bohannon, Firm
Dennis Farley, Kroll

EXHIBITS TO OCTOBER 8, 1997 LETTER
PERTAINING TO
CHEMICAL LAND HOLDINGS, INC.
EVIDENTIARY SUBMISSION REGARDING
LUCENT TECHNOLOGIES

1

849660007

MEMORANDUM FOR RECORD

Re: RCRA and PCB Inspection at the Kearny Works

On October 27, 1981, Terry Hunter and I visited the Kearny Works for the purpose of conducting a RCRA and PCB plant compliance survey. Chris Tranchetti and Angelo Basile hosted the RCRA tour of the plant and Bruce Rapp conducted the PCB portion.

RCRA Compliance Survey

We used the RCRA checklist and reviewed each item in turn as follows:

1. Manifest - Kearny sends the bulk of their hazardous waste
a. Manifests
The N.J.
part document
ctory in this
es for unsigned
waste shipment.

2.

2. Containers - The shipping containers and drums we saw were in good condition with proper DOT labels and the EPA hazardous label (photostat attached) filled out and attached to every drum of waste. We saw no placards as there were no trucks evident.

3. Written Inspection Plans for Storage Area - They do not have any.

4. Contingency Plans - They are using the coordinators indicated in the NJ spill control plan, and are just finishing drafting the plan (copy attached).

5. Personnel Records, Job Description and Training - A training program has been prepared and implemented for two people for the receival, handling, storage, and disposal of hazardous waste. (copy attached)

6. Additional Records - 1) Exception reports; are applicable when manifests are not returned by disposer, Kearny keeps records and uses 35 days as time limit before following up. 2) Test results on wastes - routine tests are performed on all wastes by an outside laboratory. 3) Descriptions and reports of incidents resulting from hazardous waste management. - None to date.

NOV 6 1981

7. Storage Facilities

A. RCRA Permit or "Interim Status" - Kearny has filed for "Interim Status" as a storage facility.

B. Storage Area - The storage area, (Pad) 135' x 85' is open to the weather and fenced in with an 8' chain link fence. The area is diked with a concrete curb which varies from 6" to 18" depending upon the ground slope. The area has a large warning sign on the fence identifying the enclosure as a storage area. There are no fire extinguishers as yet in the storage area but they have been ordered. The storage area is 75 feet from the plant security police and fire control stations.

C. Spill Collection System - Their spill control plan consists of covering potential spills with "speedi-dri" and calling their scavenger in for clean up.

D. Drainage - The storage area has a large drainage pit in the approximate center. The pit is equipped with a manual valve and the drain leads to the river. The storage area can be drained within four hours after a heavy rain with this system. RCRA requires that drums stand in rainwater no more than one hour after a rain. Kearny has the drums stored on pallets and therefore meets this one hour requirement.

E. Closure Plan - Copy attached

In conclusion, we feel that the Kearny Works satisfactorily meets the RCRA requirements for a generator and storer of hazardous waste. We also feel there is weakness in several areas as follows:

1. The collection system for spills could allow hazardous waste into the storm drain.
2. The storage area should really be roofed over to keep rainwater etc. off the drums and out of the area.
3. The drain system and valve could be a problem in freezing weather.
4. Asphalt pad is cracked and should be impervious.

PCB Inspection

Kearny has 13 PCB transformers on site using "pyranol" and "abestol" as the dielectric fluid. Of these transformers, seven are inside installations and the remaining six are outside, two of which are not functioning and considered storage tanks. They also have a drum storage area inside with a total of twelve 30 gallon drums containing virgin PCB liquid used for transformer make-up.

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

AUG 11 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Nicholas W. Capuano
AT & T
131 Morristown Road
Basking Ridge, NJ 07920

RE: Western Electric Co., Inc. - Kearny Works (Western Electric)
Kearny Town, Hudson County
ECRA Case #84025

Dear Mr. Capuano:

As part of the Environmental Cleanup Responsibility Act review process, Western Electric was inspected by a representative of the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment on July 22, 1992. The inspection was conducted to ensure that sampling was conducted in accordance with the NJDEPE's letter dated June 9, 1992. All sampling was performed in accordance with said letter.

During the inspection approximately eleven drains, with unknown discharge points, were observed in the former drum storage pad. When a photo ionization detector screened the water inside the discharge pipe of one of the drains, total volatile organic compounds were detected at 22 parts per million. Due to the potential impact to the environment, Western Electric shall determine the discharge point of the former drum storage pad drains (plumbing diagrams, dye test, etc.). Western Electric shall submit documentation on the method used to determine the discharge points and the location of the outfalls to the NJDEPE, within 30 days of the receipt of this letter.

If you have any questions regarding this letter, please contact the Case Manager, Carol Lynn J. Heck, at (609) 633-7141.

Sincerely,

Carolyn L. Scott, for

Tessie W. Fields Section Chief
Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment

849660011

3

AT&T

131 Morristown Road
Basking Ridge, NJ 07920

September 3, 1992

N.J. Department of Environmental Protection & Energy
Division of Responsible Party Site Remediation
Ms. Carol Lynn Heck
CN - 028
Trenton, New Jersey 08625-0028

Re: **AT&T Kearny Works**
Kearny, NJ
ECRA Case #84025

Dear Ms. Heck:

In response to your August 11, 1992 inquiry concerning the drains located in the former drum storage pad, I have enclosed the following documentation as prepared by ENSR Consulting and Engineering for AT&T:

Attachment No. 1: This attachment identifies the fourteen catch basins that were cleaned on the subject concrete pad.

Attachment No. 2: Included in this attachment are copies of the relevant pages of the certification document (Document Number 888-40, February 1986) submitted to and approved by the NJDEPE. Item No. 3 on page 2-1 certifies ERT observations that the peripheral soil was removed, the concrete pad was swept off, and the catch basins were vacuumed, roto rooted, and jet cleaned. All residual material was collected and disposed of off-site in a permitted landfill.

Attachment No. 3: This attachment includes copies of the relevant pages of ERT's daily field log. The text marked with asterisks on page 151 document my observations of the catch basin cleaning procedures.

<u>Attachment No. 4</u>: This attachment includes a copy of the contractor's daily work log that identifies the snaking and jetting of the subject catch basins was completed.

The enclosed documentation should answer your concerns to these drains. As the documents demonstrate all these drains were cleaned out and all waste removed from the site and disposed according to regulatory requirements.

Attachment No. 2 provides the certification that the clean up of "Other Clean Up" has been completed according to the NJDEP approved Environmental Clean Up Plan.

If you have any questions or comments, please call me at (908) 204-8268.

Sincerely,

Nicholas W. Capuano

Nicholas W. Capuano
Kearny ECRA Clean Up
Manager

ATTACHMENT NO. 1

NO.	REVISIONS	BY	CKD.	APP.	DATE
4	AS BUILT	SD	RNR	RNR	12
3	CHANGES TO AREAS 33 & 34 ; ADDED IN PLACE VOLUMES	SD	RHB		10-8-85
2	CHANGE TO AREAS (4,5,6), 7, 8A, 8B, 11A, 11B, 14, (21,22A),	(21,22B), 31,	37,38,9		8-9-85
1	CHANGES TO AREAS 11, 15, 21, 22, 26, 44, 48, 49	MEM	JML		5-20-85

ERT ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
696 VIRGINIA ROAD, CONCORD, MASSACHUSETTS 01742

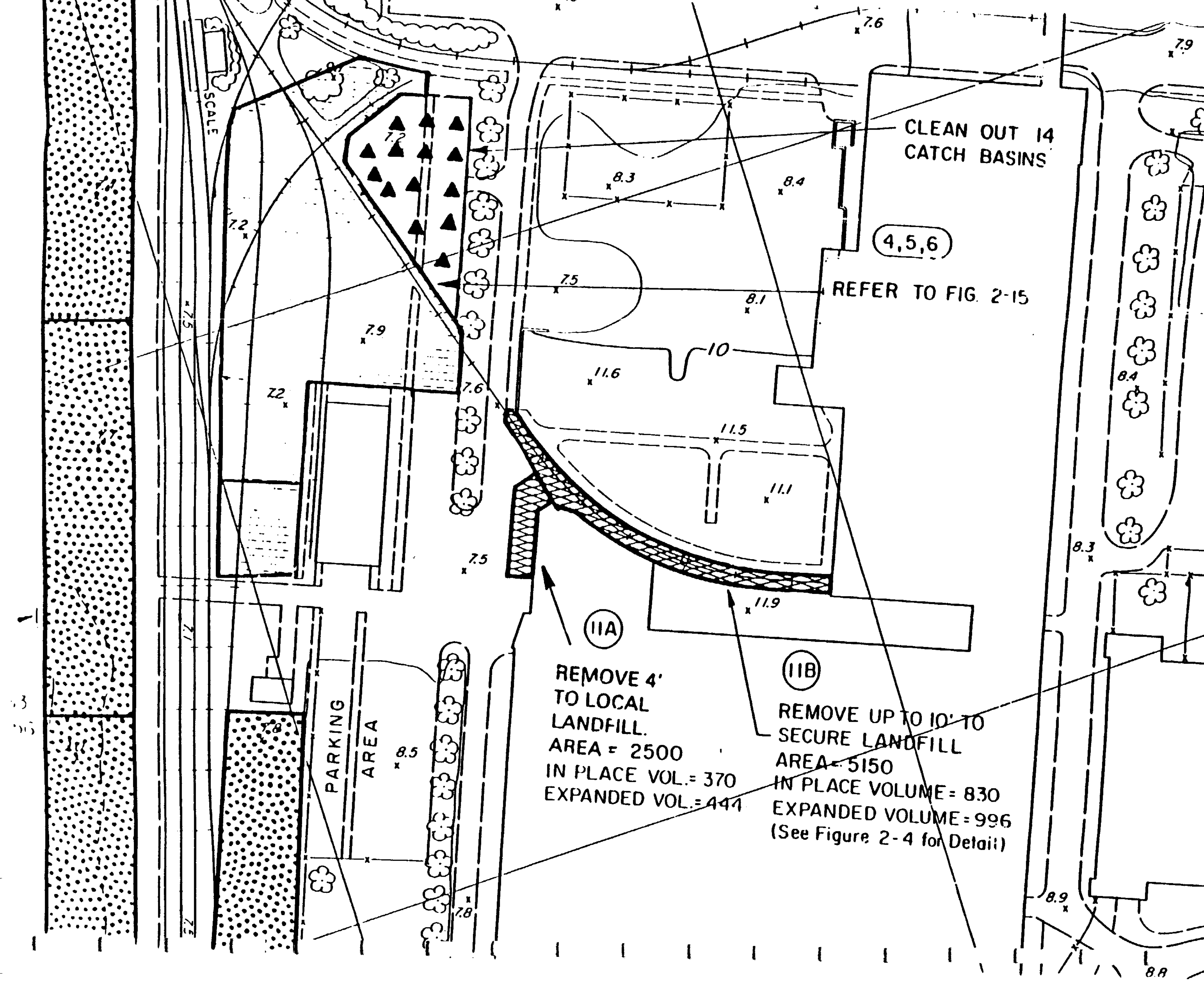
TITLE: COMPLETED SOIL EXCAVATION
AT&T KEARNY WORKS

WILLIAM A. DUVEL
Professional Engineer

Wm A. Duvel 1/21/88
N.J. Lic. No. GE 28465

DRAWN: M. McCARTNEY	DATE: 3-22-85	DRAWING NO. FIG. 2-16
CHECKED:	SCALE: 1" = 100'	
APPROVED:		

849660016


SCALE
CLEAN OUT 14 CATCH BASINS
4,5,6
REFER TO FIG. 2-15
PARKING AREA
PARKING AREA
11A
REMOVE 4' TO LOCAL LANDFILL.
AREA = 2500
IN PLACE VOL.= 370
EXPANDED VOL.= 444
11B
REMOVE UP TO 10' TO SECURE LANDFILL
AREA= 5150
IN PLACE VOLUME= 830
EXPANDED VOLUME= 996
(See Figure 2-4 for Detail)

849660017

ATTACHMENT NO. 2

CERTIFICATION OF ECRA OTHER CLEANUP

AT&T KEARNY WORKS

Document Number 888-440

February 1986

ERT

ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.

ATLANTA · CHICAGO · CONCORD, MA · FORT COLLINS, CO

HOUSTON · LOS ANGELES · PITTSBURGH · WASHINGTON, DC

849660019

CERTIFICATION OF ECRA OTHER CLEANUP
AT&T KEARNY WORKS

Document Number 888-440
February 1986

Prepared for
AT&T TECHNOLOGIES, INC.

Prepared by

ERT, A Resource Engineering Company
696 Virginia Road, Concord, Massachusetts 01742

5797D PC888-430

849660020

CERTIFICATION OF OTHER CLEANUP

ERT certifies that it has carried out a quality assurance and inspection program for the site cleanup activities conducted by various contractors engaged by AT&T Technologies, Inc. (AT&T) to effect the cleanup of AT&T's Kearny Works, as described in the Amended Environmental Cleanup Plan, Kearny Works, AT&T Technologies, Inc. (ERT Document D367-200). This Plan was prepared by ERT and approved by the New Jersey Department of Environmental Protection (NJDEP) on July 8, 1985. The quality assurance and inspection plans followed by ERT are attached. On the basis of the work conducted by ERT in accordance with these plans, ERT has determined that the cleanup work conducted by the various contractors for Other Cleanup* has been completed and is in conformance with the requirements of the Amended Environmental Cleanup Plan. This document describes the work conducted by ERT and presents the basis for this certification.

Wm A Duvel Jr 3/7/86

Dr. William A. Duvel, Jr., P.E.
Senior Program Manager

*Separate Certifications for (1) Soil Cleanup, and (2) Ground Water Cleanup.

5797D 888-430

2. STORAGE FACILITIES

The following paragraphs discuss the activities taken in the following storage facilities in a clockwise order of rotation beginning in the lower left corner of Drawing 8452-120579-D (see back pocket).

1. Building 25, Grid Index J-4, has 32 adjacent underground tanks. Each of these tanks had been emptied and filled with sand/cement at some time unrecorded in the past. To verify that this condition was true, AT&T opened the manholes accessing the tanks and found they do contain sand/cement materials to the top and contain no liquids. ERT reviewed an AT&T memo dated July 5, 1985, that requested an additional week of work for the person opening the manhole accessing the tank. A spot check by ERT of two manholes showed they are filled with sand/cement.

2. Silt pumped from Powerhouse cooling water tunnels was deposited at Grid Index J-2 several years ago. The area where the silt was deposited was excavated and removed in conjunction with Area 2 soil excavation. See Certification of ECRA Soil Cleanup, ERT Document No. D888-430, for details of ERT certification of soil removal.

3. Two storage pads:

   a) Concrete pad adjacent to soil area 4, 5, 6. ERT observations document that the periferal soil was removed, the concrete pad was swept off, and the catch basins were vacuumed, roto rooted, and jet cleaned. All residual material was collected and disposed of off-site in a permitted landfill as required by state and federal solid waste regulations (see also soil excavation in Area 4, 5, 6 in Certification of ECRA

Soil Cleanup, ERT Document No. D888-430 for details of ERT certification of soil removals and catch basin cleanout).

b) RCRA storage area. ERT observations document that residues and standing liquids in this area were mechanically removed by scraping and vacuuming. The area was further cleaned by high pressure water washing and vacuuming the wash water. A review of AT&T Work Orders SP926 and W-47156 document pre-cleanup measures. The pre-cleanup measures included the identification and disposal of all drums by Chemical Waste Management (CWM), Newark, N.J. (ref. manifest listing March 1985 to July 1985).

4. Four 10,000-gallon underground tanks located south of Building 83 at Grid Index H-3. Three tanks were drained and filled with sand approximately 15 years ago and required no action. The fourth tank contained diesel oil. The tank was water/steam cleaned, nitrogen purged, excavated, and cut up by CWM, and removed from the area for salvage by the new owner. The residual oils were removed and sent to Flowen Oil Company for reclaiming. The above work was performed by CWM and witnessed by ERT.

5. 840,000-gallon oil tank at Grid Index G-3. ERT observed the removal of residual sludge and oil, venting and cleaning the tank using high pressure water/steam, and flushing the underground transfer lines with water to and from the day tank and the powerhouse. ERT inspected the interior of the tank to verify that it was clean. Review of 14 NJA manifests labeled "Waste Oil and water, recycle #6 Fuel Oil," to Flowen Oil Company documents the disposal of the tank cleanout. Review of 12 NJA manifests labeled "Hazardous Waste Liquid (N.O.S)" identifies that the residual sludges and washdown materials were disposed of at the SCA (Newark) treatment plant.

ENSR

ENSR Consulting
and Engineering

Somerset Executive Square 1
One Executive Drive
Somerset, NJ 08873
(908) 560-7323
FAX (908) 560-1688

February 12, 1993

Mr Nicholas Capuano
Corporate Environmental Engineering
AT&T
Room B2162
131 Morristown Road
Basking Ridge, New Jersey 07920

Re: Cleanup Plan Implementation Schedule
Former AT&T Kearny Works, Kearny, New Jersey
ECRA Case No. 84025

Dear Nick:

Enclosed are four copies of the Remedial Proposal for Contaminated Soil at Former Drum Storage Pad and three copies of the Cleanup Plan Implementation Schedule and the Summary of Historical Data. An additional copy of all documents will be sent to Alan Chesler.

The Remedial Proposal has incorporated comments from you and Mr. Angelo Basile. Most significantly, Mr. Basile indicated that reclassification of the aquifer should be considered which could potentially result in less stringent soil cleanup standards.

The Implementation Schedule is presented in two figures. Figure 1 is a recapitulation of all past soil cleanup activities conducted pursuant to the ECRA program at Kearny. Figure 2 is a schedule for proposed future remediation in the area of the concrete pad. This is the same schedule shown in the Remedial Proposal.

If you have any questions or concerns regarding these materials, please call.

Sincerely,

Stephen Byrne

for Frank Myerski
Project Manager

FM/gk

Reference No. (524)LETTER.FM

Enclosure

cc: B. Duvel
S. Byrne
D. Hessemer

0550-263-400

849660025

AT&T

Kearny, New Jersey

Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case No. 84025

ENSR Consulting and Engineering

February 1993

Document Number 0550-263-400(524)

849660026

CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

ENSR Consulting and Engineering (ENSR) was retained by AT&T Technologies, Inc. (AT&T) to develop a proposal to remediate contaminated soil located in the Former Drum Storage Pad Area of the Former Kearny Works in Kearny, New Jersey. This proposal was prepared in response to the New Jersey Department of Environmental Protection and Energy's (NJDEPE) November 25, 1992 letter. This remediation plan was required in the November 25, 1992 letter in response to the soil investigation conducted by AT&T in July 1992.

Section 2.0 of this document provides a general overview of site conditions, including soil sampling results and previous soil and groundwater remediation activities. This section also includes contaminant isopleth maps from soil samples collected on July 22, 1992. Areas of constituent concentrations above NJDEPE proposed soil cleanup standards are overlayed onto the isopleth maps and form the basis for determining the known extent of soil contamination.

Regulations affecting remedial activities in New Jersey have recently undergone significant changes. For example, NJDEPE recently decided not to adopt the proposed soil cleanup standards specified in the February 3, 1992 New Jersey Register, and has instead decided to await the outcome of a recently proposed ECRA reform bill. In the absence of official standards, this remedial proposal has been based on the February 3, 1992 proposed standards. This can be considered a conservative approach for this site since the proposed cleanup standards are based upon soil overlying Class I and IIA aquifers. The shallow water bearing unit at the Kearny site has low yields and is not used as a potable water supply. Therefore, reclassification of the groundwater and the consequent impact on cleanup standards needs to be reevaluated. Section 3.0 presents additional discussion on the pertinent regulatory considerations for the proposed remedial alternative.

Based on regulatory, technical, and economic considerations, four remedial alternatives were evaluated as potential options to remediate the Former Drum Storage Pad Area soils. Section 4.0 provides the recommended remedial alternative and includes additional soil delineation sampling, post-excavation sampling, and permitting issues. Section 5.0 presents considerations which will be included in a site-specific health and safety plan.

A project schedule for implementing the proposed remedial activities is provided in Section 6.0.

2.0 SITE DESCRIPTION

2.1 Site Geology

The subsurface lithology in the vicinity of the Former Drum Storage Pad Area has been investigated by installing monitoring wells (DRAI, 1985) and well points, and conducting infiltration and aquifer characterization tests (ERT, 1985).

The soils at the site consist of unconsolidated deposits overlying the Brunswick Shale bedrock. Bedrock begins at a depth of 60 to 80 feet below land surface (bls). As shown on Figure 2-1, the overlying unconsolidated formations are, from shallow to deep: imported surficial fill, sandy silt, silt/clay, and interbedded sands and silts.

The surficial fill section consists of sand with some concrete, bricks, and cinders emplaced for general site grading purposes, and occurs throughout the site. In the vicinity of the Drum Storage Pad Area, the fill is 4 to 6 feet thick.

Beneath the fill is a generally 1- to 3-foot layer of sandy silt grading into organic silt. Observations made during a trench excavation near the pad indicated that silver grey sandy silt occupied the 6- to 8-foot depth interval. The fill-sandy silt contact of this unit is quite distinct. However, the lower boundary grades imperceptibly into the grey silt/clay.

2.2 Previous Remedial Activities

Two significant remedial activities have been conducted in the Former Drum Storage Pad Area, to fulfill requirements authorized by NJDEPE in the approved Amended Environmental Cleanup Plan (1985). First, in 1985, soil adjacent to the southern border of the concrete pad was excavated to a depth of approximately 3 feet (depth to groundwater). The excavation was then backfilled with clean fill (i.e., crushed quarry stone). This area is depicted in Figure 2-2. Second, due to groundwater contamination detected in five monitoring wells in the concrete pad area, a groundwater remediation system was designed by ENSR in 1985 and installed and operated beginning August 1986. After five years of operation, AT&T was authorized by NJDEPE in July 1991 to cease groundwater remediation activities, since contamination from the monitoring wells at the site declined substantially over time and stabilized.

Not true

2.3 Soil Characterization

To delineate the soil contamination in the Former Drum Storage Pad Area, a soil gas survey was conducted in June 1990. Based on the soil gas survey, four soil borings were advanced in August 1991 and soil samples were analyzed for priority pollutant volatile organic compounds (VOC) via GC/MS. Seventeen additional soil borings were advanced and soil samples were collected in July 1992. The locations of these soil gas survey points and soil sample locations are also shown on Figure 2-2. The numeric values indicated represent the concentration of total VOCs, in parts per million (ppm), from the soil gas survey.

A summary of soil sample results from the July 1992 sampling effort is provided by Table 2-1. All samples were analyzed for the following five targeted VOCs via GC/MS: trans-1,2-dichloroethylene, tetrachloroethylene, toluene, 1,1,1-trichloroethane, and trichloroethylene. These analytes were among those targeted in the June 1990 soil gas survey because they appeared at the highest concentrations most consistently in the groundwater during seven years of groundwater monitoring. Further, these five volatile compounds were the only VOCs detected above detection limits in the August 1991 soil sampling event. Sample number designations correspond to the sampling grid depicted on Figure 2-2.

NJDEPE has proposed three sets of cleanup standards for soil: residential surface soil, non-residential surface soil, and subsurface soil. These standards were proposed for Class I and IIA aquifers in the February 3, 1992 New Jersey Register. After one year, NJDEPE decided not to adopt the proposed standards but to continue to use them as guidelines. These guidelines, hereafter referred to as proposed standards, for the contaminants of concern in the Drum Storage Area are listed in Table 2-2.

Contaminant isopleth maps for four of the targeted compounds, at two depths, are presented in Figures 2-3 through 2-10. An isopleth map for toluene has not been included, due to the limited number of detected concentrations. Areas of soil contamination that exceed NJDEPE proposed cleanup levels are indicated on the isopleth maps by cross-hatching.

The isopleth maps indicate and differentiate between concentrations above proposed standards for residential and non-residential surface soils. Use of residential standards resulted in the addition of three sample locations over those above non-residential standards for tetrachloroethylene and trichloroethylene, and one location for 1,1,1-trichloroethane.

As shown on Figure 2-3, none of the surface soil samples exceeded the proposed non-residential or residential surface soil standard for trans-1,2-dichloroethylene (DCE). One sample location (E-7) exceeded the proposed subsurface soil standard for DCE (see Figure 2-4).

TABLE 2-1

Summary of Soil Sampling Results at Kearny
July 1992

Sample No.	Compound Detected (ppb)				
	trans-1,2 dichloroethene	tetrachloroethene	toluene	1,1,1-trichloroethane	trichloroethene
D5-C (12 - 18) inch increment	ND[a]	1,500	ND	ND	750
D5-F (30 - 36) inch increment	140 J[b]	2,700	ND	ND	1,600
D6-C (12 - 18) inch increment	14	160	ND	ND	13
D6-F (30 - 36) inch increment	ND	5.7	ND	ND	ND
D7-C (12 - 18) inch increment	26,000	29,000	ND	910 J	50,000
D7-F (30 - 36) inch increment	4,600	1,300	ND	290 J	830
E5-C (12 - 18) inch increment	590 J	32,000	ND	360 J	14,000
E5-F (30 - 36) inch increment	ND	6,600	ND	190 J	5,200
E6-B (6 - 12) inch increment[c]	500,000	5,500,000	48,000 J	520,000	130,000
E7-C (12 - 18) inch increment	110,000	4,900 J	ND	2,200 J	170,000
E7-E (30 - 36) inch increment	87,000	4,900 J	ND	1,800 J	130,000
E8-C (12 - 18) inch increment[d]	2.5 J	2.5 J	ND	ND	ND
E8-F (30 - 36) inch increment[e]	4.7 J	2.5 J	2.4 J	ND	2.7 J
E10-C (12 - 18) inch increment	ND	ND	ND	ND	ND
E10-F (30 - 36) inch increment	ND	ND	ND	ND	ND
E11-C (12 - 18) inch increment	2,400	13,000	ND	510 J	49,000
E11-F (30 - 36) inch increment	2,500	10,000	ND	350 J	42,000
F5-B (6 - 12) inch increment	710	2,000	ND	ND	8,600
F5-F (30 - 36) inch increment	2,500	5,800	ND	950 J	32,000
F6-C (12 - 18) inch increment	18,000	40,000	1,100 J	6,400	100,000
F6-E (24 - 30) inch increment	16,000	29,000	780 J	5,400	78,000
F7-B (6 - 12) inch increment	48,000	76,000	ND	2,400 J	70,000
F7-F (30 - 36) inch increment	85	85	1.3 J	5.3	44
F8-B (6 - 12) inch increment	810	1,700	ND	4,600	690
F8-F (30 - 36) inch increment	890	310 J	1,300	630	580 J
F8-H (30 - 36) inch increment[f]	4,400	1,400	4,600	3,000	3,100
F10-C (6 - 12) inch increment	160 J	300 J	ND	350 J	2,500

(524)-2-1.TAB 0550-236-400

TABLE 2-1

Summary of Soil Sampling Results at Kearny
July 1992

Sample No.	Compound Detected (ppb)				
	trans-1,2 dichloroethene	tetrachloroethene	toluene	1,1,1-trichloroethane	trichloroethene
F10-F (30 - 36) inch increment	6,400	2,800	ND	4,700	71,000
F11-F (30 - 36) inch increment[d]	ND	92,000	ND	ND	6,600
F12-C (12 - 18) inch increment	ND	580 J	ND	ND	4,700
F12-F (30 - 36) inch increment	590 J	5,000	ND	320 J	29,000
G11-E (12 - 18) inch increment	74	380	ND	11	240
G11-F (30 - 36) inch increment	890	5,200	ND	ND	2,600
Trip Blank[d]	ND	ND	ND	ND	ND
Field Blank[d]	ND	ND	ND	ND	ND

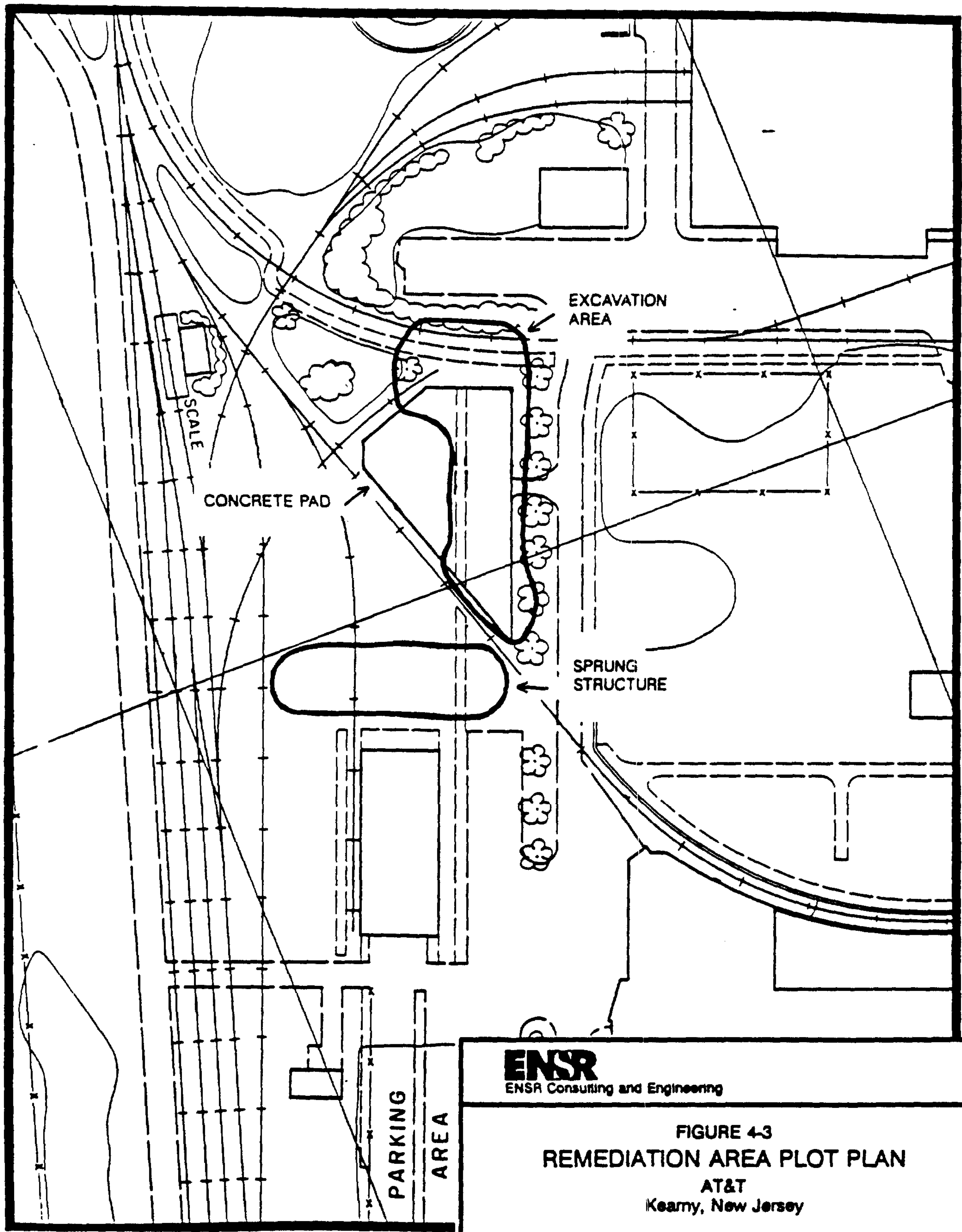
(a) Indicates no compounds were detected.
(b) Indicates result is less than the specified detection limit but greater than zero.
(c) This sample was analyzed for GC/MS volatiles plus a forward library search - other compounds detected included ethyl benzene (670,000 ug/kg) and total xylenes (4,500,000 ug/kg).
(d) This sample was analyzed for GC/MS volatiles plus a forward library search - no other compounds were detected.
(e) This sample was analyzed for GC/MS volatiles plus a forward library search - other compounds detected include: benzene (5.7 ug/kg), chloroethane (16 ug/kg), ethylbenzene (3.0 ug/kg), methylene chloride (4.7 ug/kg), and total xylenes (11 ug/kg).
(f) Field duplicate to sample number F8-F.

TABLE 2-2

NJDEPE Proposed Cleanup Standards for Contaminants of Concern in Drum Storage Area

	Surface[a][b] Residential (ppm)	Surface Non-Residential (ppm)	Subsurface[c] (ppm)
Trans-1,2-Dichloroethylene	960	10,000	50
Tetrachloroethylene	9	37	1
Toluene	1,000	1,000	500
1,1,1-Trichloroethane	210	3,800	50
Trichloroethylene	23	100	1

(a) This assumes that the shallow water bearing unit at the Kearny site is appropriately classified as a Class IIA aquifer. Further, these proposed standards were not adopted and are not expected to be adopted in the near future.
(b) Surface is defined as 0 - 2 feet interval.
(c) Subsurface is defined as 2 feet to groundwater interval. Note, groundwater depth is approximately 3 feet in the Drum Storage Area.



ENSR

ENSR Consulting and Engineering

FIGURE 4-3

REMEDIATION AREA PLOT PLAN

AT&T

Kearny, New Jersey

DRAWN:	DATE: February 5, 1993	PROJECT NO.: 0550-263-400	REV: 0
FILE NO.:	CHECKED:		

849660036

Figure 2-5 shows that surface soil concentrations of tetrachloroethylene (PCE) above the proposed non-residential cleanup standard (37 ppm) are limited to the north and west sides of the concrete pad area. One sample in this area (E-6) contained 5,500 ppm of PCE. These results correspond to field observations made during the sampling effort, which indicated a strong solvent odor during the installation of borings in this portion of the pad area. The areal extent of surface soils above the residential cleanup standard is slightly larger, primarily in the northwest corner of the pad and at a small location on the east side of the pad. As shown on Figure 2-6, all but three of the subsurface soil samples exceeded the proposed subsurface soil cleanup standards for PCE.

The surface soil and subsurface soil isopleth maps for 1,1,1-trichloroethane (TCA) are presented in Figures 2-7 and 2-8. Only one of the soil samples (E-6) exceeded the proposed residential surface soil cleanup standard for TCA. Non-residential surface cleanup standards and the subsurface standard for TCA were not exceeded.

Figure 2-9 shows that three surface soil samples exceeded the proposed non-residential cleanup standard for trichloroethene (TCE). The area exceeding the residential cleanup standard is slightly larger. Most of the subsurface samples exceeded the proposed cleanup standards for TCE (see Figure 2-10).

Figure 2-11 shows the approximate areas in the Former Drum Storage Pad Area that exceed NJDEPE proposed cleanup standards. Note that this area corresponds to soil samples above subsurface standards. Since the subsurface standards are more stringent for the contaminant of concern, the use of residential or non-residential surface standards has no effect on the area requiring remediation. In this case, the subsurface soil standards apply from the surface down to the water table and will be used to determine the extent of soil requiring remediation. Soil located beneath the southern portion of the concrete pad has not been observed to exceed the proposed cleanup standards.

FORMER AT&T KEARNY WORKS

SUMMARY PRESENTATION OF HISTORICAL DATA

Background

During 1984 and 1985 AT&T conducted an ECRA investigation of potential soil and groundwater contamination at the former Kearny Works in Kearny, New Jersey. This work, which was conducted in accordance with work plans approved by the NJDEPE, involved the sampling and analysis of soils from across the entire site. Sampling was conducted using both hand augers and hollow-stem augers (during installation of monitoring wells). Based on the results of this sampling, in July 1985, NJDEPE approved an Amended Environmental Cleanup Plan (AECP) which specified the excavation and off-site disposal of contaminated soils from various areas around the site. The excavations were backfilled with clean fill meeting the cleanup criteria specified by NJDEPE. The general areas of excavation are shown in the attached Figure 1 (see pocket) from the AECP.

As part of the excavation, most of the soils in the areas where samples were taken were removed from the site. However, samples from "clean" areas remained on site. Also, a limited number of confirmatory samples were taken as part of the excavation. Consequently, these sample data are available.

On June 26, 1987, NJDEPE submitted a letter to AT&T stating that the soil cleanup addressed by the AECP was approved as complete. At that time, NJDEPE stated that the only area requiring additional remediation was the groundwater in the area of the former drum storage pad. A copy of the June 26 letter is provided in Appendix A.

In 1991, additional soil sampling was conducted in the vicinity of the concrete pad shown as the boxed area on Figure 2 (see pocket).

Data Tables

Historical site data are presented in this document in two sections. Section 1 contains a summary of analytical data from **excavated areas**. For each sample location within an excavated area (see Figure 1), data have been tabulated for the deepest sample collected, unless samples were collected deeper than the base of the excavation. Data for samples collected below the base of the excavation are presented in Section 2.

The data tables presented in Section 2 contain sample results from **unexcavated areas** (including samples below excavated areas) and confirmatory sampling. These data are divided into three subsections:

- Pre-cleanup delineation sampling - samples collected in 1984 and 1985 for preparation of the AECP.
- Soil boring samples associated with installation of monitoring wells.
- Soil samples collected in the vicinity of the concrete pad in 1991.

Data presented on the tables contained in Section 2 have been compared to residential and non-residential, surface and subsurface standards. These standards were proposed by NJDEPE on February 3, 1992. A copy of the NJDEPE proposal is provided in Appendix B.

The NJDEPE has recently announced that it will not adopt the proposed soil cleanup standards. However, it is our understanding that at this time NJDEPE will continue to use a modified version of the proposed standards as guidelines. For purposes of this document, the standards proposed in February 1992 have been used as the basis for comparison of the data.

The cleanup standards as proposed by NJDEPE did not include subsurface standards for metals and various other parameters. Therefore, no comparison of subsurface metals data was made.

In general, in situations where the soil sample interval included soils both above and below the two foot depth (which distinguishes surface soil from subsurface soil), the data were compared to surface soil standards. An exception to this categorization was made in the case of volatile organics. For volatile organic compounds, the proposed subsurface standards are more stringent than the surface standards. Therefore, volatile organic sample intervals containing both surface and subsurface soil were compared to subsurface standards.

Each sample presented in Section 1 and in the first subsection of Section 2 has been numbered according to the area from which it was collected. For example, sample numbers 1A, 1-2-A, and 1-9-X would all represent samples collected in Area 1. The excavated areas shown on Figure 1 are identified by the area number.

For data in both Section 1 and Section 2, values followed by a "U" qualifier represent parameters that were not detected. For example, a value of 5U indicates that the parameter was not detected at a detection limit of 5 ppm. Blank spaces indicate that no data were available for the associated parameter. Detected values are followed by an indication of whether the concentration was above, below, or equal to the associated proposed standard. All values are presented in ppm.

Data Summary

Figure 2 (see pocket) has been prepared as a summary of data contained in Section 2. This figure shows sample locations where measured analytical data exceed the proposed cleanup standards.

Summary of Data for Excavated Areas
Data in ppm

Sample ID:		1-1-B	1-2-B	1-3-B	1-4-B	1-5-B	1-6-B	
Sample Depth (in.):		0	0	0	0	0	0	
Metals								
Arsenic	2	200	530	110	59	70	700	As
Cadmium	1 / 180	0.33	0.25U	0.52	0.37	0.74	0.25U	
Chromium	10 / 500	74	150	68	64	76	320	
Copper	600	240	220	180	150	140	250	
Lead	100 / 1600	250	600	290	190	190	630	
Selenium	.3 / 3800	3	1.4U	1.4U	1.2U	1.2U	1.3U	
Miscellaneous Parameters								
Cyanide		2.6						

Sample ID:	1-7-B	1-8-B	1-8-B	1-10-X	1-11-X	1-12-X	
Sample Depth (in.):	0	0	0 (DUP)	0	0	0	
Metals							
Arsenic	* 510	110	110	140	42	18	As
Cadmium	0.38	0.36	0.42				
Chromium	160	75	60	* 1500	160	250	3615
Copper	280	150	250	200	111	160	
Lead	* 590	220	200	680	300	380	395
Nickel				170	61	35	
Selenium	1.4U	1.3U	1.2U				
Zinc				560	200	92	

Sample ID:	1-13-X	1-14-X	1-15-X	1-17-X	1-18-X	
Sample Depth (in.):	0	0	0	0	0	
Metals						
Arsenic	* 24	15	66	51	23	As
Chromium	* 45	200	1000	1100	170	Cr 419.
Copper	97	120	560	620	110	
Lead	* 270	310	780	790	510	
Nickel	23	77	77	74	41	
Zinc	90	380	240	260	94	

849660040

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	2-1-X	2-2-X	2-2-X	2-3-X	2-4-X
Sample Depth (in.):	0	0	0	0	0
			(DUP)		
Metals					
Arsenic	* 16	46	45	22	26
Chromium	* 220	660	620	180	190
Copper	130	600	600	580	270
Lead	* 180	730	760	530	330
Nickel	31	92	100	240	70
Zinc	77	380	440	1200	120

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	3-1-X	3-2-X	3-3-X	3-4-X	3-5-X
Sample Depth (in.):	0	0	0	0	0
Metals					
Arsenic	* 23	21	22	6.7	15
Chromium	* 120	58	280	1400	50
Copper	270	230	220	140	200
Lead	* 610	430	300	130	270
Nickel	100	100	120	190	29
Zinc	170	96	380	240	160

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	4A	4-5-Z	4-6-Z	4-7-Z	
Sample Depth (in.):	12-36	36	36	36	
Volatile Organics					
Chloromethane		0.6U	0.6U	2U	
Bromomethane		0.6U	0.6U	2U	
Vinyl Chloride		0.6U	0.6U	2U	
Chloroethane		0.6U	0.6U	2U	
Methylene Chloride	0.017	0.6U	0.6U	2U	10
Trichlorofluoromethane		0.6U	0.6U	2U	
1,1-Dichloroethylene		0.6U	0.6U	2U	
1,1-Dichloroethane		0.6U	0.6U	2U	
Trans-1,2-dichloroethylene	0.042	0.6U	0.6U	2U	
Chloroform	0.038	0.6U	0.6U	3.2	* 50
1,2-Dichloroethane		0.6U	0.6U	2U	
1,1,1-Trichloroethane	0.013	3U	3U	16	* 50
Carbon Tetrachloride	0.01	0.6U	0.6U	2U	1
Bromodichloromethane		0.6U	0.6U	2U	
1,1-Dichloropropane		0.6U	0.6U	2U	
Trans-1,3-dichloropropene		0.6U	0.6U	2U	
Trichloroethylene	1.83	0.6U	0.6U	2U	
Dibromochloromethane		0.6U	0.6U	2U	
Cis-1,3-dichloropropene		0.6U	0.6U	2U	
1,1,2-Trichloroethane		0.6U	0.6U	2U	
Benzene		0.6U	1.4	2U	* 1
1-Chloroethyl-vinyl ether		0.6U	0.6U	2U	
Bromoform		0.6U	0.6U	2U	
Tetrachloroethene	0.6	0.6U	0.6U	2U	
1,1,2,2-Tetrachloroethane		0.6U	0.6U	2U	
Toluene		0.6U	1.2	2U	500
Chlorobenzene		0.6U	0.6U	2U	
Ethylbenzene		0.6U	0.6U	3.9	< 100

cis

849660043

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	4A	4-1-A	4-1-A	4-2-A	4-3-B	4-4-A
Sample Depth (in.):	12-36	12-36	12-36 (DUP)	12-36	0	12-36
Metals						
Antimony	2.9U					
Arsenic	8.7	26	22	20	67	28
Barium	140U					
Beryllium	14U					
Cadmium		0.25U	0.25U	0.52	4.1	0.25U
Chromium	100	400	220	85	6300	58
Copper	35	68	67	88	380	300
Lead	41	59	91	91	780	110
Mercury	1.5					
Nickel	20					
Selenium	2.9U	1.2U	1.2U	2.2	1.1U	1.8U
Silver	14U					
Thallium	140U					
Zinc	49					
Miscellaneous Parameters						
Cyanide		13	5.3	2.7	2.2	410

Sample ID:	4-5-Z	4-5-Z	4-6-Z	4-7-Z
Sample Depth (in.):	36	36 (DUP)	36	36
Metals				
Arsenic	7.2	7.9	9.2	7.9
Chromium	15	21	17	37
Copper	38	56	23	18
Lead	120	120	0.25U	25U
Nickel	27	32	12U	13
Zinc	50	820	160	160

849660044

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	GA-1-A	GA-2-A	GA-3-A	GA-4-A	GA-5-B	GA-5-B
Sample Depth (in.):	12-36	12-36	12-36	12-36	0	0 (DUP)
Metals						
Arsenic	30	16	34	42	19	27
Cadmium	0.25U	0.37	0.55	0.5	2.5	2.6
Chromium	3200	470	110	860	13000	8000
Copper	95	57	110	89	180	190
Lead	460	84	150	160	330	400
Selenium	4.6	3	3.9	2.6	1.4U	1.5U
Miscellaneous Parameters						
Cyanide	4.1U	2.7U	2.2U	2.2	2.4	10

Sample ID:	GA-6-A	GA-7-A
Sample Depth (in.):	12-36	12-36
Metals		
Arsenic	8.5	21
Cadmium	0.25U	0.92U
Chromium	140	440
Copper	36	74
Lead	47	130
Selenium	2.7	7.1
Miscellaneous Parameters		
Cyanide	13	12

849660045

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	5A	5-8-Z	5-8-Z	5-9-Z
Sample Depth (in.):	12-36	36	36 (DUP)	36
Volatile Organics				
Chloromethane		0.6U	2U	2U
Bromomethane		0.6U	2U	2U
Vinyl Chloride		0.6U	2U	2U
Chloroethane		0.6U	2U	2U
Methylene Chloride	0.034	0.6U	2U	4.6
Trichlorofluoromethane		0.6U	2U	2U
1,1-Dichloroethylene	0.007	0.6U	2U	2U
1,1-Dichloroethane	0.006	0.6U	2U	2U
Trans-1,2-dichloroethylene	0.061	0.6U	2U	2U
Chloroform	0.02	0.6U	2U	2U
1,2-Dichloroethane		0.6U	2U	2U
1,1,1-Trichloroethane	0.143	3U	5U	5.5 *
Carbon Tetrachloride		0.6U	2U	2U
Bromodichloromethane		0.6U	2U	2U
1,1-Dichloropropane		0.6U	2U	2U
Trans-1,3-dichloropropene		0.6U	2U	2U
Trichloroethylene	2.96	5	4.4	7.4 * 1ppm STD
Dibromochloromethane		0.6U	2U	2U
Cis-1,3-dichloropropene		0.6U	2U	2U
1,1,2-Trichloroethane		0.6U	2U	2U
Benzene		1.1	2U	2U
1-Chloroethyl-vinyl ether		0.6U	2U	2U
Bromoform		0.6U	2U	2U
Tetrachloroethene	1.5	0.6U	2U	12 * 1ppm
1,1,2,2-Tetrachloroethane		0.63	2U	2U
Toluene		3.4	2U	2U
Chlorobenzene		0.6U	2U	2U
Ethylbenzene		0.6U	2U	4 100

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	5A	5-1-A	5-2-A	5-3-A	5-4-A	5-5-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Antimony	2.7U					
Arsenic	* 8.7	13	130	1200	590	13
Barium	140U					
Beryllium	* 14U					
Cadmium		0.25U	0.25U	0.37	0.36	0.25U
Chromium	49	19	21	14	25	18
Copper	100	39	43	99	71	68
Lead	* 54	83	150	640	280	110
Mercury	0.81					
Nickel	46					
Selenium	2.7U	1.4U	1.8U	7.3	1.4U	1.5U
Silver	14U					
Thallium	* 140U					
Zinc	520					
Miscellaneous Parameters						
Cyanide			110	12	2.3U	2U

Sample ID:	5-6-A	5-7-A	5-8-Z	5-9-Z
Sample Depth (in.):	12-36	12-36	36	36
Metals				
Arsenic	* 28	200	33	7.7
Cadmium	0.25U	0.25U		
Chromium	* 19	580	17	13
Copper	54	36	45	38
Lead	38	33	25U	25U
Nickel			28	15
Selenium	1.6U	1.4U		
Zinc			470	130
Miscellaneous Parameters				
Cyanide	2.2U	2.1U		

Sample ID:	6A	6-8-Z
Sample Depth (in.):	12-36	36
Volatile Organics		
Chloromethane		3U
Bromomethane		3U
Vinyl Chloride		3U
Chloroethane		3U
Methylene Chloride	26	3U
Trichlorofluoromethane		3U
1,1-Dichloroethylene	0.76	3U
1,1-Dichloroethane	0.59	3U
Trans-1,2-dichloroethylene	25	3U
Chloroform	0.32	3U
1,2-Dichloroethane		3U
1,1,1-Trichloroethane	18	9.5
Carbon Tetrachloride		280
Bromodichloromethane	0.38	3U
1,1-Dichloropropane		3U
Trans-1,3-dichloropropene		3U
Trichloroethylene		230
Dibromochloromethane		3U
Cis-1,3-dichloropropene		3U
1,1,2-Trichloroethane		3U
Benzene	0.18	3U
1-Chloroethyl-vinyl ether		3U
Bromoform		3U
Tetrachloroethene		150
1,1,2,2-Tetrachloroethane		8.7
Toluene	39	3U
Chlorobenzene		3U
Ethylbenzene	3.2	3U

Summary of Data for Excavated Area
Data in ppm

Sample ID:		6A	6-1-A	6-2-A	6-3-A	6-4-A	6-5-A
Sample Depth (in.):		12-36	12-36	12-36	12-36	12-36	12-36
Metals							
Antimony	14	6.2U					
Arsenic	2	29	120	20	28	11	7.2
Barium	70	120U					
Beryllium	1	12U					
Cadmium	1/100		0.25U	0.25U	0.64	2.2	8.1
Chromium	10/600	52	24	22	54	16	19
Copper	600	90	98	84	170	320	120
Lead	100/500	120	200	81	210	150	100
Mercury	14	0.58					
Nickel	[illegible]	25U					
Selenium	-	2.5U	1.8	1.6U	1.1U	1.6U	1.3U
Silver	110	12U					
Thallium	2	120U					
Zinc		920					
Miscellaneous Parameters							
Cyanide		54	2.6U	2.8U	1.8	2U	1.7U

Sample ID:	6-6-A	6-7-A	6-8-Z
Sample Depth (in.):	12-36	12-36	36
Metals			
Arsenic	35	12	27
Cadmium	0.25U	0.25U	
Chromium	26	15	17
Copper	52	32	42
Lead	170	56	25U
Nickel			34
Selenium	1.4U	1.4U	
Zinc			420
Miscellaneous Parameters			
Cyanide	1.3U	1.9U	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	7-1-X	7-2-X
Sample Depth (in.):	0	0
Metals		
Arsenic	47	34
Chromium	250	
Copper		190
Lead	540	180

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	8A	8-5-Z
Sample Depth (in.):	12-36	36
Metals		
Antimony	3.4	
Arsenic	7.6	
Barium	240	
Beryllium	14U	
Cadmium	0.25U	
Chromium	28U	
Copper	90	450
Lead	360	150
Mercury	0.35	
Nickel	28	
Selenium	2.8U	
Silver	14U	
Thallium	140U	
Zinc	87	

849660051

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	11A	11-2-A	11-3-A	11-4	11-4	11-10
Sample Depth (in.):	12-36	12-36	12-36	48-72	48-72 (DUP)	0-6
Miscellaneous Paramaters						
PCBs				1.5	1U	85
TPHC	5500	10300	11400		–	

Sample ID:	11-11	11-18	11-19	11-20	11-21
Sample Depth (in.):	120-132	48-72	84-96	132-144	132-144
Miscellaneous Paramaters					
PCBs	5U	5.5	6.2	5U	5U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	14-1-A	14-2-A	14-3-A	14-4-A	14-5-A	14-6-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Arsenic	35	17	15	8.4	5.8	14
Cadmium	0.25U	0.35	0.5	2	0.28	0.25U
Chromium	38	27	34	38	25	40
Copper	87	88	45	79	53	53
Lead	110	93	160	110	130	80
Selenium	1.3U	1.3U	1.4U	1.3U	1.3U	1.3U
Miscellaneous Paramaters						
TPHC	5U	42	26	56	5U	5U

Sample ID:	14-7-A	14-9-A
Sample Depth (in.):	12-36	12-36
Metals		
Arsenic	23	16
Cadmium	0.25U	0.38
Chromium	19	36
Copper	77	58
Lead	190	150
Selenium	1.3U	1.3U
Miscellaneous Paramaters		
TPHC	5U	180

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	15A	15-5-Z	15-6-Z	15-7-Z	15-8-Z
Sample Depth (in.):	12-36	36	36	36	36
Volatile Organics					
Chloromethane		0.6U	0.6U	0.6U	0.6U
Bromomethane		0.6U	0.6U	0.6U	0.6U
Vinyl Chloride		0.6U	0.6U	0.6U	0.6U
Chloroethane		0.6U	0.6U	0.6U	0.6U
Methylene Chloride		0.6U	0.6U	0.6U	0.6U
Trichlorofluoromethane		0.6U	0.6U	0.6U	0.6U
1,1-Dichloroethylene		0.6U	0.6U	0.6U	0.6U
1,1-Dichloroethane		0.6U	0.6U	0.6U	0.6U
Trans-1,2-dichloroethylene		0.6U	0.6U	0.6U	0.6U
Chloroform		0.6U	0.6U	0.6U	0.6U
1,2-Dichloroethane		0.6U	0.6U	0.6U	0.6U
1,1,1-Trichloroethane		3U	3U	3U	3U
Carbon Tetrachloride		0.6U	0.6U	0.6U	0.6U
Bromodichloromethane		0.6U	0.6U	0.6U	0.6U
1,1-Dichloropropane		0.6U	0.6U	0.6U	0.6U
Trans-1,3-dichloropropene		0.6U	0.6U	0.6U	0.6U
Trichloroethylene		0.6U	0.6U	0.6U	0.6U
Dibromochloromethane		0.6U	0.6U	0.6U	0.6U
Cis-1,3-dichloropropene		0.6U	0.6U	0.6U	0.6U
1,1,2-Trichloroethane		0.6U	0.6U	0.6U	0.6U
Benzene	1.6	0.6U	0.6U	0.6U	0.6U
1-Chloroethyl-vinyl ether		0.6U	0.6U	0.6U	0.6U
Bromoform		0.6U	0.6U	0.6U	0.6U
Tetrachloroethene		0.6U	0.6U	0.6U	0.6U
1,1,2,2-Tetrachloroethane		0.6U	0.6U	0.6U	0.6U
Toluene	0.65	0.6U	0.6U	0.6U	0.6U
Chlorobenzene		0.6U	0.6U	0.6U	0.6U
Ethylbenzene		0.6U	0.6U	0.6U	1.1

Sample ID:	15A	15-1-A	15-2-A	15-3-A	15-5-Z
Sample Depth (in.):	12-36	12-36	12-36	12-36	36
Miscellaneous Paramaters					
TPHC	110	36	11	30	8200

Sample ID:	15-6-Z	15-7-Z	15-8-Z
Sample Depth (in.):	36	36	36
Miscellaneous Paramaters			
TPHC	1100	100	290

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	16A	16-9-Z	16-10-Z	
Sample Depth (in.):	12-36	36	36	
Volatile Organics				
Chloromethane		0.6U	0.6U	
Bromomethane		0.6U	0.6U	
Vinyl Chloride	0.61	0.6U	0.6U	
Chloroethane		0.6U	0.6U	
Methylene Chloride		0.7	0.6U	
Trichlorofluoromethane		0.6U	0.6U	
1,1-Dichloroethylene	0.71	0.6U	0.6U	
1,1-Dichloroethane		0.6U	0.6U	
Trans-1,2-dichloroethylene	39	0.6U	0.6U	
Chloroform		0.6U	0.6U	
1,2-Dichloroethane	* 193	0.6U	0.6U	
1,1,1-Trichloroethane	0.37	3U	3U	
Carbon Tetrachloride		0.6U	0.65	
Bromodichloromethane		0.6U	0.6U	
1,1-Dichloropropane		0.6U	0.6U	
Trans-1,3-dichloropropene		0.6U	0.6U	
Trichloroethylene -		0.6U	14	
Dibromochloromethane		0.6U	0.6U	
Cis-1,3-dichloropropene		0.6U	0.6U	
1,1,2-Trichloroethane		0.6U	0.6U	
Benzene	0.54	0.6U	0.6U	
1-Chloroethyl-vinyl ether		0.6U	0.6U	
Bromoform		0.6U	0.6U	
Tetrachloroethene		0.6U	1.5	
1,1,2,2-Tetrachloroethane		0.6U	0.6U	
Toluene		0.6U	2.3	500
Chlorobenzene	0.27	0.6U	0.6U	
Ethylbenzene	0.2	0.6U	0.6U	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	16A	16-1-A	16-2-A	16-3-A	16-4-A	16-5-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Antimony	2.7U					
Arsenic	12	10	57	28	28	63
Barium	910					
Beryllium	14U					
Cadmium	14U	0.25U	2.3	1.3	0.25U	1.5
Chromium	1160	500	630	590	1200	730
Copper	220	78	360	2300	86	85
Lead	380	200	1000	3000	180	300
Mercury	0.85					
Nickel	170					
Selenium	26	2.4	1.2U	1.3U	1.4U	1.4U
Silver	14U					
Thallium	140U					
Zinc	390					

Sample ID:	16-6-A	16-7-A	16-8-A	16-9-Z	16-10-Z
Sample Depth (in.):	12-36	12-36	12-36	36	36
Metals					
Arsenic	33	24	10		9.6
Cadmium	0.8	2.4	0.25U		
Chromium	160	9000	1300	110	31
Copper	94	140	120	74	120
Lead	65	170	120	55	180
Nickel				34	29
Selenium	12	2.4	1.4U		
Zinc				200	120

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	17A	17-1-Z	17-2-Z	17-2-Z
Sample Depth (in.):	12-36	36	36	36 (DUP)
Volatile Organics				
Chloromethane		0.6U	0.6U	0.6U
Bromomethane		0.6U	0.6U	0.6U
Vinyl Chloride		0.6U	0.6U	0.6U
Chloroethane		0.6U	0.6U	0.6U
Methylene Chloride		0.9	0.6U	0.69
Trichlorofluoromethane		0.6U	0.6U	0.6U
1,1-Dichloroethylene		0.6U	0.6U	0.6U
1,1-Dichloroethane		0.6U	0.6U	0.6U
Trans-1,2-dichloroethylene		0.6U	0.6U	0.6U
Chloroform		0.6U	0.69	0.6U
1,2-Dichloroethane		0.6U	0.6U	0.6U
1,1,1-Trichloroethane		3U	6.5	5.5
Carbon Tetrachloride		0.6U	1	0.94
Bromodichloromethane		0.6U	0.6U	0.6U
1,1-Dichloropropane		0.6U	0.6U	0.6U
Trans-1,3-dichloropropene		0.6U	0.6U	0.6U
Trichloroethylene		0.6U	0.63	0.6U
Dibromochloromethane		0.6U	0.6U	0.6U
Cis-1,3-dichloropropene		0.6U	0.6U	0.6U
1,1,2-Trichloroethane		0.6U	0.6U	0.6U
Benzene		0.6U	0.6U	0.6U
1-Chloroethyl-vinyl ether		0.6U	0.6U	0.6U
Bromoform		0.6U	0.6U	0.6U
Tetrachloroethene		0.6U	27	19
1,1,2,2-Tetrachloroethane		0.6U	1.6	0.6U
Toluene		1.9	2.6	1.8
Chlorobenzene		0.6U	0.6U	0.6U
Ethylbenzene		0.6U	0.68	0.6U
Metals				
Antimony	6.2U			
Arsenic	4.2	7	17	
Barium	120U			
Beryllium	12U			
Cadmium	0.25U			
Chromium	25U	19	140	
Copper	88	38	410	
Lead	25U	73	170	
Mercury	0.13			
Nickel	25U	14	83	
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	48	62	430	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	21A	21B	21-1-A	21-2-A	21-3-A	21-6-A
Sample Depth (in.):	12-36	0	24-36	24-36	24-36	24-36
Volatile Organics						
Methylene Chloride		0.031				
1,1,1-Trichloroethane		0.008			–	
Metals						
Antimony	6.2U					
Arsenic	10					
Barium	120U					
Beryllium	12U					
Chromium	50					
Copper	55					
Lead	250					
Mercury	0.1					
Nickel	25U					
Selenium	2.5U					
Silver	12U					
Thallium	120U					
Zinc	130					
Miscellaneous Paramaters						
Cyanide	12U					
PCBs	1.1		2.3	1.6	1U	2.5

Sample ID:	21-7-Z	21-8-X	21-9-X	21-10-Z
Sample Depth (in.):	36	0	0	36
Metals				
Copper		38		
Lead	490		50	96
Nickel		100		
Zinc	350		140	300
Miscellaneous Paramaters				
Cyanide	U	1.7	U	U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	22B	22-10-X	22-11-X	22-12-Z
Sample Depth (in.):	0	0	0	36
Volatile Organics				
Methylene Chloride	0.013			
Chloroform	0.018			
Metals				
Antimony	6.2U			
Arsenic	12			
Barium	200			
Beryllium	12U			
Chromium	50			
Copper	78			
Lead	410	65	51	150
Mercury	0.12			
Nickel	38			
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	350	160	120	400

Sample ID:	22B	22-1-A	22-2-A	22-3-A	22-4-A	22-5-A
Sample Depth (in.):	0	24-36	24-36	24-36	24-36	24-36
Miscellaneous Paramaters						
Cyanide	12U					
PCBs	21	19.8	2.9	9.6	5.8	5.4

Sample ID:	22-6-A	22-7-B	22-7-B	22-8-B	22-9-A
Sample Depth (in.):	24-36	0	0 (DUP)	0	24-36
Miscellaneous Paramaters					
PCBs	10U	2.7	4.4	16.5	10U

Sample ID:	22-10-X	22-11-X	22-12-Z
Sample Depth (in.):	0	0	36
Miscellaneous Paramaters			
PCBs	U	U	1.3

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	25A	25-1-Y	25-2-Y	25-3-X
Sample Depth (in.):	12-36	12-36	12-36	0
Metals				
Antimony	6.2U			
Arsenic	5			
Barium	120U			
Beryllium	12U			
Chromium	25U			
Copper	150			
Lead	88	460	130	
Mercury	0.44			
Nickel	25U			
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	750	100	310	350
Miscellaneous Parameters				
Cyanide	12U			

849660060

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	26A
Sample Depth (in.):	12-36
Metals	
Antimony	2.9U
Arsenic	8.1
Barium	140U
Beryllium	14U
Chromium	1580
Copper	170
Lead	230
Mercury	0.81
Nickel	126
Selenium	2.9U
Silver	14U
Thallium	140U
Zinc	1370
Miscellaneous Parameters	
Cyanide	12U

849660061

	26A
Sample Depth (in.):	12–36
Metals	
Antimony	2.9U
Arsenic	8.1
Barium	140U
Beryllium	14U
Chromium	1580
Copper	170
Lead	230
Mercury	0.81
Nickel	126
Selenium	2.9U
Silver	14U
Thallium	140U
Zinc	1370
Miscellaneous Parameters	
Cyanide	12U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	33A	33Z	33-1-B	33-2-B	33-3-B	33-4-B
Sample Depth (in.):	12-36	36	0	0	0	0
Metals						
Antimony	6.2U					
Arsenic	16	16	30	42	40	51
Barium	120U					
Beryllium	12U					
Cadmium			1	1.5	1.6	2
Chromium	110	150	5300	11000	8500	9900
Copper	65	140	490	730	620	740
Lead	98	240	880	1400	1100	1000
Mercury	0.58					
Nickel	48	56				
Selenium	2.5U		1.4U	1.4U	1.3U	11
Silver	12U					
Thallium	120U					
Zinc	100	200				
Miscellaneous Parameters						
Cyanide		U	160			

Sample ID:	33-5-B	33-6-B	33-7-B	33-8-B	33-9-Z	33-10-Z
Sample Depth (in.):	0	0	0	0	36	36
Metals						
Arsenic	26	35	54	40	15	6.1
Cadmium	2.8	1.6	1.2	1.8		
Chromium	19000	4800	8600	11000	74	1200
Copper	1200	430	620	750	210	120
Lead	1900	900	1100	1400	300	110
Nickel					51	280
Selenium	14	3.1	1.5	1.5U		
Zinc					220	520
Miscellaneous Parameters						
Cyanide					0.79	12

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	S3-11-Z	S3-12-Z	S3-13-Z	S3-14-Z
Sample Depth (In.):	36	36	36	36
Metals				
Arsenic	8.4	5.6	2.3	38
Chromium	17	22	13	200
Copper	58	67	U	2300
Lead	83	U	U	1900
Nickel	37	29	U	300
Zinc	130	62	U	13000
Miscellaneous Parameters				
Cyanide	1.2	U	U	U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	34A	34-1-Z	34-2-Z	34-3-Z	34-4-Z	34-5-Z
Sample Depth (in.):	12-36	36	36	36	36	36
Metals						
Antimony	2.7U					
Arsenic	6	36	15	12	25	8.3
Barium	140U					
Beryllium	14U					
Chromium	27	280	180	180	5000	5800
Copper	36	1800	290	82	610	430
Lead	27U	1200	420	460	270	440
Mercury	0.13					
Nickel	19	220	82	32	1500	1400
Selenium	2.7U					
Silver	14U					
Thallium	140U					
Zinc	60	8600	690	140	4100	3500
Miscellaneous Parameters						
Cyanide		2.7	U	23	57	61

Sample ID:	34-6-Z	34-7-Z
Sample Depth (in.):	36	36
Metals		
Arsenic	4.4	5.2
Chromium	650	U
Copper	210	24
Lead	420	U
Nickel	240	20
Zinc	1300	150
Miscellaneous Parameters		
Cyanide	7.7	21

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	37-1-B	37-2-B	37-3-B	37-4-B	37-5-B	37-6-B
Sample Depth (in.):	0	0	0	0	0	0
Metals						
Arsenic	11	14	20	17	14	16
Cadmium	2.6	3.2	4.5	1.3	2.1	2.9
Chromium	310	370	5000	1900	480	290
Copper	220	201	150	130	80	120
Lead	220	250	340	200	160	1400
Selenium	0.98U	1.3U	1.6U	1.3U	1.4U	6.3
Miscellaneous Parameters						
Cyanide	34					

Sample ID:	37-7-B	37-8-B	37-9-B	37-10-B	37-10-B	37-11-B
Sample Depth (in.):	0	0	0	0	0 (DUP)	0
Metals						
Arsenic	11	16	14	23	140	13
Cadmium	2.6	3	2.2	3.4	13U	2.6
Chromium	75	1500	1300	6300	5500	540
Copper	220	140	320	180	600	200
Lead	150	240U	280	290	330	240
Selenium	1.2U	1.3U	1.3U	1.4U	1.3U	1.3U

Sample ID:	37-12-B	37-13-B	37-13-B
Sample Depth (in.):	0	0	0 (DUP)
Metals			
Arsenic	17	15	17
Cadmium	4.8	29	1.6
Chromium	3000	470	2700
Copper	270	230	240
Lead	330	300	440
Selenium	1.4U	1.2	1.9U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	38-1-B	38-2-B	38-3-B	38-4-B	38-5-B	38-6-B
Sample Depth (in.):	0	0	0	0	0	0
Metals						
Arsenic	17	34	54	30	20	25
Cadmium	3.3	0.7	1.7	1.7	1.6	1.2
Chromium	1500	6300	7400	8300	3000	8200
Copper	350	110	170	530	220	130
Lead	270	210	340	240	240	280
Selenium	1.2U	1.2U	1.3U	1.5U	1.2U	1.4U
Miscellaneous Parameters						
Cyanide	100					

Sample ID:	38-7-B	38-8-B	38-9-B	38-10-B	38-11-B
Sample Depth (in.):	0	0	0	0	0
Metals					
Arsenic	12	82	28	44	21
Cadmium	0.5	0.83	1.9	2.6	4.1
Chromium	8200	9300	1100	5600	680
Copper	90	130	180	140	220
Lead	140	300	340	320	400
Selenium	1.4U	4.6	2	1.4U	2

Sample ID:	38-12-X	38-12-X
Sample Depth (in.):	0	0
Metals		
Arsenic	51	59
Chromium	480	1100
Copper	410	60
Lead	740	89
Nickel	140	92
Zinc	480	180
Miscellaneous Parameters		
Cyanide	3.1U	3.1

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	39-2-X	39-3-X	39-4-X	39-7-X	39-7-X
Sample Depth (in.):	0	0	0	0	0 (DUP)
Metals					
Chromium	200	210	88	110	91
Lead	350	250	260	300	280

849660068

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	44B	44-2-X
Sample Depth (in.):	0	0
Metals		
Arsenic	29	
Cadmium	2	
Chromium	770	160
Copper	130	
Lead	290	520
Nickel	110	
Selenium	1.3U	
Zinc	200	
Miscellaneous Paramaters		
Cyanide	2.5U	
TPHC	26	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	45A	45-1-Z	45-6-Z	45-7-Z	45-9-Z
Sample Depth (in.):	12-36	36	36	36	36
Metals					
Arsenic	29				
Cadmium	0.78				
Chromium	46				
Copper	68				
Lead	300	560	340	250	83
Nickel	47				
Selenium	1.3U				
Zinc	230				
Miscellaneous Paramaters					
Cyanide	2.5U				
TPHC	5.1				

849660070

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	47B	47-3-X	47-4-X	47-5-X	47-6-X	47-7-X
Sample Depth (in.):	0	0	0	0	0	0
Metals						
Arsenic	39					
Cadmium	0.58					
Chromium	120	120	240	120	91	110
Copper	66					
Lead	310	460	400	380	240	320
Nickel	50					
Selenium	1.3U					
Zinc	75					
Miscellaneous Paramaters						
Cyanide	2.5U					
TPHC	14					

Sample ID:	47-7-X	47-8-X
Sample Depth (in.):	0 (DUP)	0
Metals		
Chromium	83	250
Lead	260	450

ENSR

AT&T

Kearny, New Jersey

Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case No. 84025

ENSR Consulting and Engineering

February 1993

Document Number 0550-263-400(524)

Figures

849660072

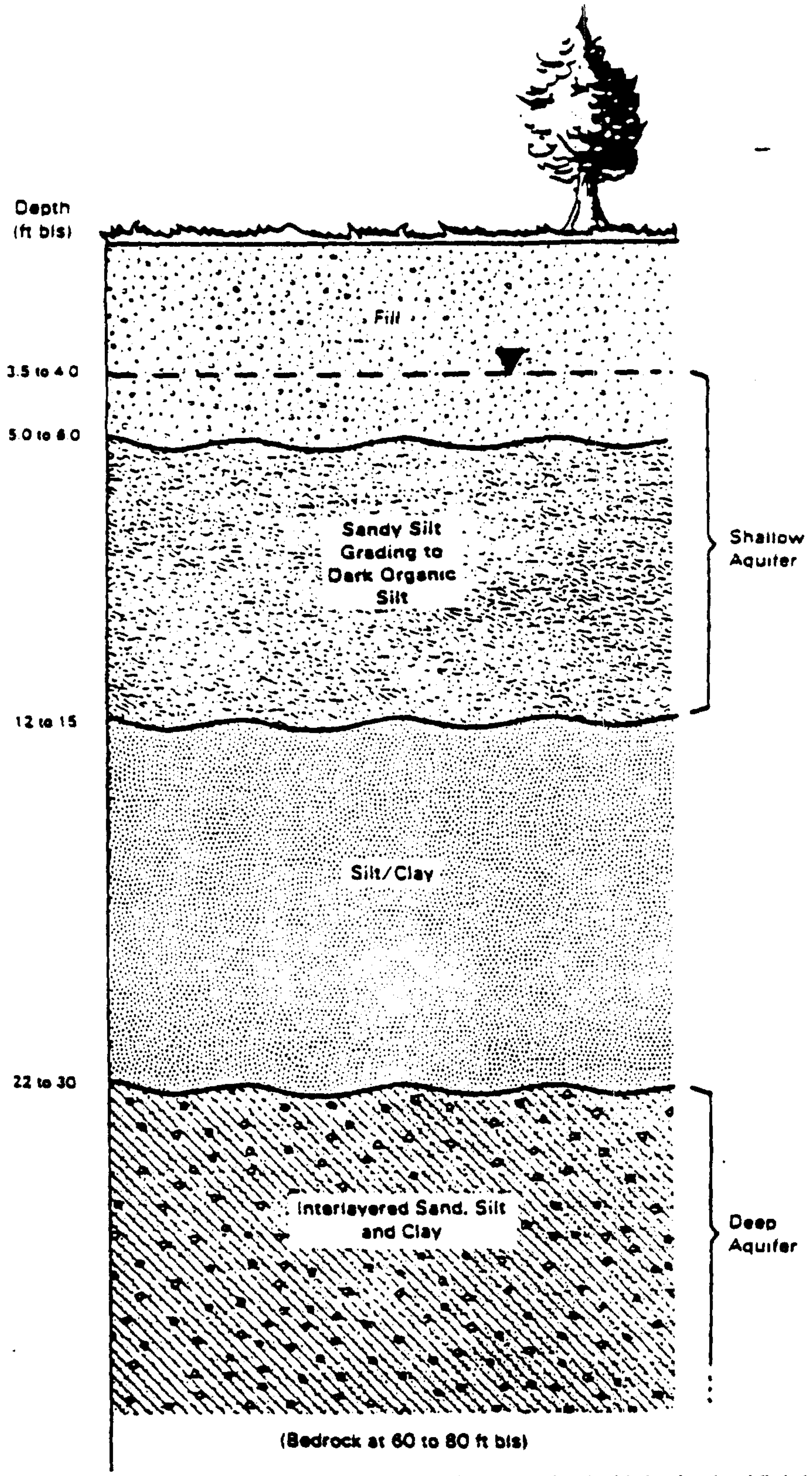
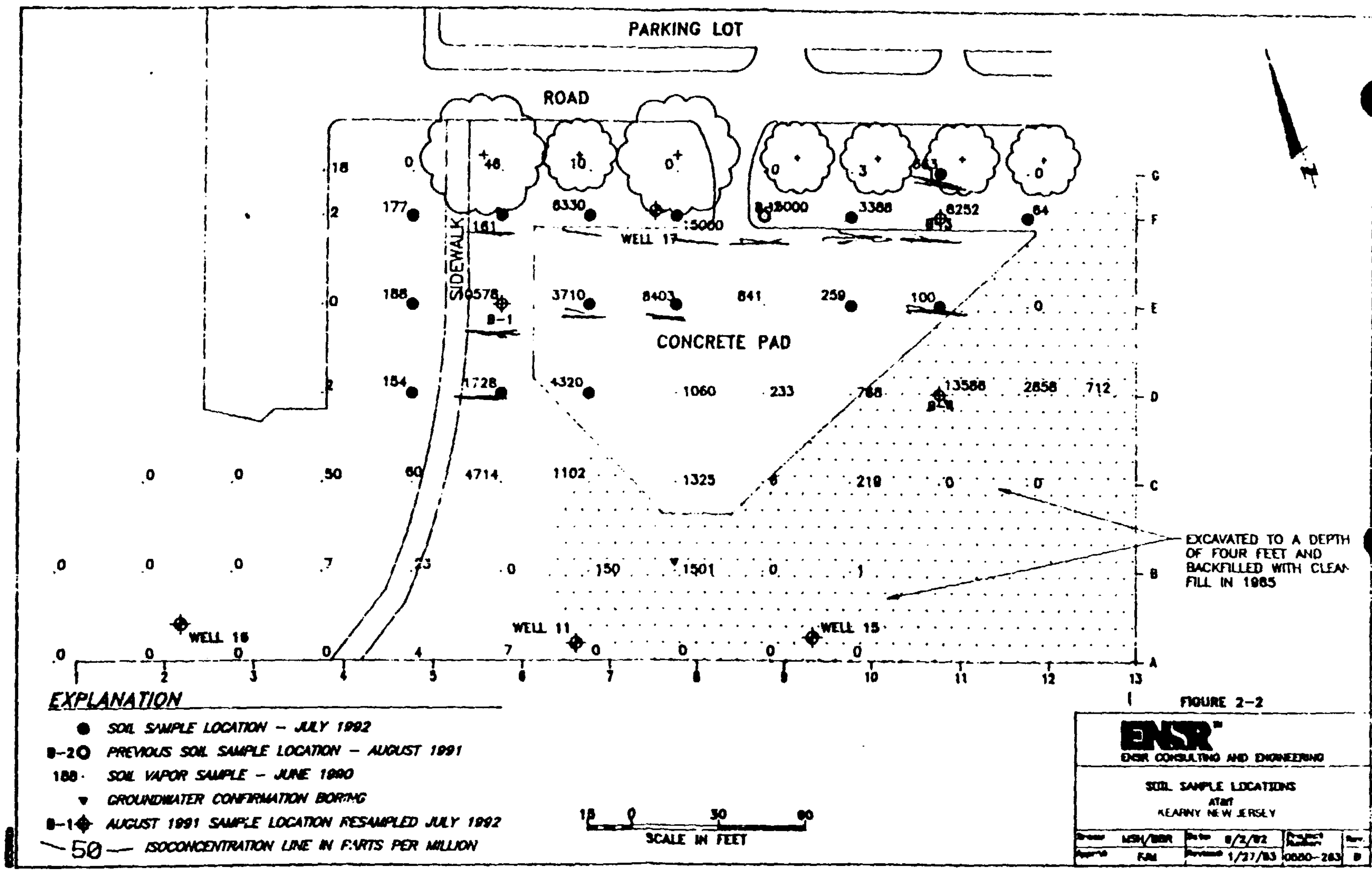


FIGURE 2-1
Hydrogologic Units in the Vicinity of Well ATT11



PARKING LOT
ROAD
SIDEWALK
WELL 17
CONCRETE PAD
B-1
WELL 16
WELL 11
WELL 15
EXCAVATED TO A DEPTH OF FOUR FEET AND BACKFILLED WITH CLEAN FILL IN 1985
EXPLANATION
SOIL SAMPLE LOCATION – JULY 1992
B-2 PREVIOUS SOIL SAMPLE LOCATION – AUGUST 1991
188 SOIL VAPOR SAMPLE – JUNE 1990
GROUNDWATER CONFIRMATION BORING
B-1 AUGUST 1991 SAMPLE LOCATION RESAMPLED JULY 1992
50 ISOCONCENTRATION LINE IN PARTS PER MILLION
SCALE IN FEET
FIGURE 2-2
ENSR
ENSR CONSULTING AND ENGINEERING
SOIL SAMPLE LOCATIONS
AT&T
KEARNY NEW JERSEY

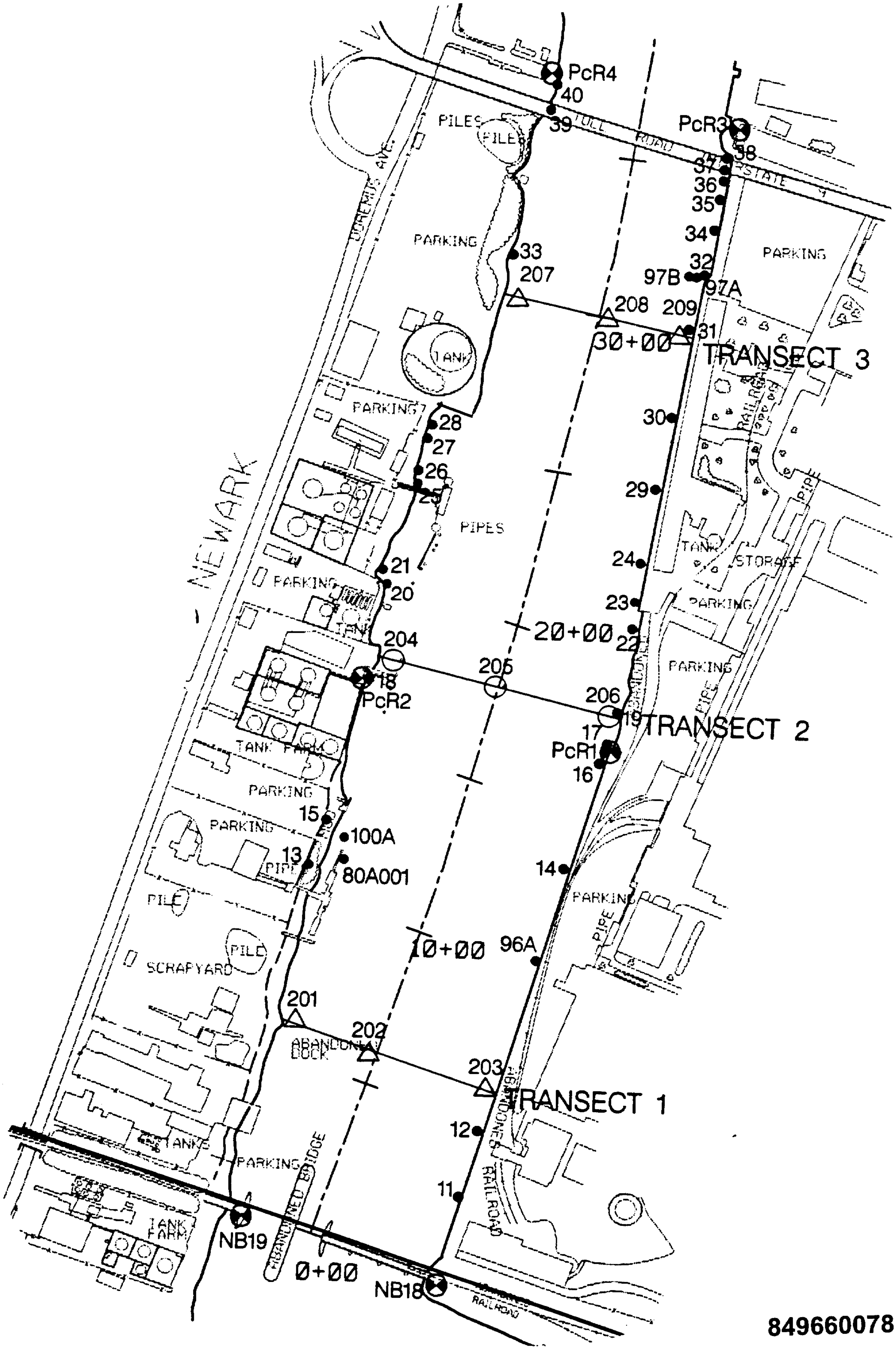
5

849660075

SEDIMENT CORE DATA - AT&T KEARNY FACILITY

Units are expressed as milligrams/kilogram (mg/kg)	Core 203	Core 206	Core 209	Core 201	Core 204	Core 207
Mercury:						
Mean - operating years	**13.3**	**16**	**11.7**	5	10.3	9.5
Mean - post-closure years	4.2	5.4	3.6	3.6	3.2	4.8
Lead:						
Mean - operating years	**525**	**638**	**623**	265	372	539
Mean - post-closure years	263	352	235	225	218	341
Copper:						
Mean - operating years	**474**	**572**	**475**	223	368	371
Mean - post-closure years	218	240	192	197	169	248
Zinc:						
Mean - operating years	**1145**	**1306**	**1059**	491	1115	956
Mean - post-closure years	490	605	430	449	390	675

6


PcR4
40
39
PILES
PILE
TOLL ROAD
PcR3
38
37
36
35
STATE
34
PARKING
33
207
32
97B
97A
208
209
31
30+00
TRANSECT 3
TANK
PARKING
28
27
26
25
PIPES
30
29
RAILROAD
PIPE
NEWARK
TANK
STORAGE
24
21
20
PARKING
23
PARKING
20+00
22
204
205
PARKING
18
PcR2
206
19
TRANSECT 2
17
PcR1
16
TANK FARM
PARKING
15
PARKING
100A
13
PIPE
80A001
14
PARKING
PIPE
PILE
PILE
96A
10+00
SCRAPYARD
201
202
ABANDONED DOCK
203
TRANSECT 1
12
TANKS
PARKING
ABANDONED BRIDGE
11
RAILROAD
TANK FARM
NB19
0+00
NB18
RAILROAD

849660078

7

849660079

THIS MAP CAN BE FOUND IN THE SITE FILE LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY,NY 10007

ERT ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC. 696 VIRGINIA ROAD, CONCORD, MASSACHUSETTS 01742			
TITLE SOIL ANALYTICAL DATA OCTOBER SAMPLING TOUR AT&T, KEARNY, NJ			
SIZE D		DRAWING NO. FIGURE 2-2	REV.
SCALE see dwgs.		SHEET OF	

849660080